

Having described the invention, we claim:

1. A method of classifying an input pattern into an associated class, comprising:

extracting data pertaining to preselected features present within the input pattern;

determining, via a first classification technique, a discriminant value for each of a plurality of classes reflecting the relative likelihood that a class is the associated class;

selecting a class with the highest relative likelihood;

generating, via a second classification technique, a confidence value reflective of the a posteriori probability that the selected class is the associated class; and

rejecting the selected class if the determined confidence value is below a predetermined threshold value.

2. A method as set forth in claim 1 wherein the first classification technique uses a modified Bayesian

distance function to compute the discriminant values.

3. A method as set forth in claim 1 wherein the second classification technique is partitioned to calculate a confidence value only for a single class.

4. A method as set forth in claim 3, wherein the second classification technique uses a modified radial basis function to compute the confidence value.

5. A method as set forth in claim 1 wherein the input pattern is a scanned image.

6. A method as set forth in claim 5 wherein each of the plurality of output classes represent a variety of postage stamp.

7. A method as set forth in claim 5 wherein each of the plurality of output classes represent an alphanumeric character.

8. A method as set forth in claim 5 wherein the step of extracting the feature data includes dividing the image into regions and summing the grayscale values of the pixels within each region.

9. A method as set forth in claim 5 wherein the step of extracting the feature data includes defining a discrete number of grayscale ranges and determining the number of pixels within the image that fall within each range.

10. A method as set forth in claim 1 wherein the input pattern is an audio recording.

11. A computer program product operative in a data processing system for use in classifying an input pattern into an associated class, the computer program product comprising:

a feature extraction portion for extracting data pertaining to preselected features present within the input pattern;

a recognition portion for determining, via a

first classification technique, a discriminant value for each of a plurality of classes reflecting the relative likelihood that a class is the associated class and for selecting a class with the highest relative probability; and

a rejection portion for generating, via a second classification technique, a confidence value reflective of the a posteriori probability that the selected class is the associated class and for rejecting the selected class if the determined confidence value is below a predetermined threshold value.

12. A computer program product as set forth in claim 11 wherein the recognition portion makes use of a Bayesian distance classifier to compute the discriminant values.

13. A computer program product as set forth in claim 11 wherein the second classification technique is partitioned to calculate a confidence value only for a single class.

14. A computer program product as set forth in
claim 13 wherein the rejection portion uses a radial basis
function to compute the confidence value.

15. A computer program product as set forth in
claim 11 wherein the input pattern is a scanned image.

16. A computer program product as set forth in
claim 15 wherein each of the plurality of output classes
represent a variety of postage stamp.

17. A computer program product as set forth in
claim 15 wherein each of the plurality of output classes
represent an alphanumeric character.

18. A computer program product as set forth in
claim 15 wherein the feature extraction portion divides the
image into regions and sums the grayscale values of the
pixels within each region.

19. A computer program product as set forth in claim 15 wherein the feature extraction portion defines a discrete number of grayscale ranges and determines the number of pixels within the image that fall within each range.

20. A computer program product as set forth in claim 11 wherein the input pattern is an audio recording.